

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Yoichiro Sako and Shigeyuki Yoneyama
Serial No. : Continuation of 09/610,783
For : SIGNAL
REPRODUCING/RECORDING/TRANSMITTING
METHOD AND APPARATUS AND SIGNAL
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PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Prior to examination of the above-referenced Continuation application, please amend the application as follows.

IN THE SPECIFICATION

On page 1, please delete lines 2-4.

On page 1, after line 1, please insert the following:

-- This application is a continuation of co-pending U.S. patent application no. 09/610,783, which is hereby incorporated by reference, which was filed on July 6, 2000 and which is a continuation-in-part of U.S. patent application no. 08/690,224, which was filed on July 19, 1996.--

IN THE CLAIMS

Please cancel claims 1-58.

Please add new claims 59-105 as follows:

--59(new). A digital video signal recorder capable of inhibiting unauthorized copying of an analog video signal, comprising:

an input terminal for receiving said analog video signal, said analog video signal including a copy protection signal;

analog-to-digital converting means for converting said analog video signal to digital video data;

compression means for compressing said digital video data to generate compressed video data;

detecting means for detecting said copy protection signal included in said analog video signal;

generating means for generating copy management information according to a state of said copy protection signal detected by said detecting means;

appending means for appending said copy management information to said compressed video data; and

recording means for recording said compressed video data with appended copy management information, said copy management information being recorded at a pre-set position of a record medium.

60(new). The recorder according to claim 59, wherein said copy protection signal is a signal coded with plural bits, is located at a pre-set position of said analog video signal and is indicative of a copy generation limitation.

61(new). The recorder according to claim 60, wherein said pre-set position of said analog video signal is a pre-set horizontal period within a vertical blanking period of said analog video signal.

62(new). The recorder according to claim 61, wherein said pre-set horizontal period is the twentieth horizontal period within said vertical blanking period.

63(new). The recorder according to claim 59, wherein said pre-set position of said record medium is located within a data area and/or a lead-in area of said record medium.

64(new). The recorder according to claim 63, wherein said pre-set position of said record medium is located within a header portion which is within said data area of said record medium.

65(new). The recorder according to claim 59, wherein said digital video data is partitioned into units and said copy management information is located in at least one of said units.

66(new). The recorder according to claim 59, wherein said record medium is an optical disc, a magneto-optical disc, a magnetic hard disk or an integrated circuit (IC) memory card.

67(new). The recorder according to claim 59, wherein said analog video signal is an analog video signal having a combination signal of plural pseudo synchronization pulses and plural white peak signals across plural horizontal periods in a vertical blanking period of said analog video signal.

68(new). The recorder according to claim 59, wherein said analog video signal is an analog color video signal having an associated color burst signal and wherein the phase of at least a portion of said color burst signal is changed from an original state.

69(new). The recorder according to claim 68, wherein said copy protection signal is a signal coded with plural bits, is located at a pre-set position of said analog video signal and is indicative of a limitation on recording.

70(new). A digital video signal recorder capable of inhibiting unauthorized copying of an analog video signal, comprising:

an input terminal for receiving said analog video signal, said analog video signal including a copy protection signal;

analog-to-digital converting means for converting said analog video signal to digital video data;

compression means for compressing said digital video data to generate compressed video data;

detecting means for detecting said copy protection signal included in said analog video signal;

generating means for generating copy management information according to a state of said copy protection signal detected by said detecting means;

scrambling means for generating scrambled video data by scrambling said compressed video data according to key information; and

recording means for recording said scrambled video data with said key information, said key information being recorded at a pre-set position of a record medium.

71(new). The recorder according to claim 70, wherein said pre-set position of said record medium is located within a data area and/or a lead-in area of said record medium.

72(new). The recorder according to claim 71, wherein said pre-set position of said record medium is located within a header portion which is within said data area of said record medium.

73(new). The recorder according to claim 72, wherein said digital video data is partitioned into units and said key information is located in at least one of said units.

74(new). The recorder according to claim 70, wherein said key information corresponds to bit sequence data used to implement the scrambling.

75(new). A digital video signal recorder capable of inhibiting unauthorized copying of an analog video signal, comprising:

an input terminal for receiving said analog video signal, said analog video signal including a copy protection signal;

analog-to-digital converting means for converting said analog video signal to digital video data;

compression means for compressing said digital video data to generate compressed video data;

detecting means for detecting said copy protection signal included in said analog video signal;

generating means for generating copy management information according to a state of said copy protection signal detected by said detecting means;

scrambling means for generating scrambled video data by scrambling said compressed video data according to key information;

appending means for appending said copy management information to said scrambled video data; and

recording means for recording said scrambled video data with said copy management information and said key information, said copy management information and said key information being recorded at a pre-set position of a record medium.

76(new). The recorder according to claim 75, wherein said copy protection signal is a signal coded with plural bits, is located at a pre-set position of said analog video signal and is indicative of a copy generation limitation.

77(new). The recorder according to claim 75, wherein said pre-set position of said record medium is located within a data area and/or a lead-in area of said record medium.

78(new). The recorder according to claim 77, wherein said pre-set position of said record medium is located within a header portion which is within said data area of said record medium.

79(new). The recorder according to claim 75, wherein said key information corresponds to bit sequence data used to implement the scrambling.

80(new). A digital video signal recording method through which unauthorized copying of an analog video signal can be inhibited, comprising the steps of:

receiving said analog video signal, said analog video signal including a copy protection signal;

performing an analog-to-digital conversion on said analog video signal to generate digital video data;

compressing said digital video data to generate compressed video data;

detecting said copy protection signal included in said analog video signal;

generating copy management information according to a state of said copy protection signal detected in said step of detecting;

appending said copy management information to said compressed video data; and recording said compressed video data with appended copy management information, said copy management information being recorded at a pre-set position of a record medium.

81(new). The recording method according to claim 80, wherein said copy protection signal is a signal coded with plural bits, is located at a pre-set position of said analog video signal and is indicative of a copy generation limitation.

82(new). The recording method according to claim 80, wherein said pre-set position of said analog video signal is a pre-set horizontal period within a vertical blanking period of said analog video signal.

83(new). The recording method according to claim 82, wherein said pre-set horizontal period is the twentieth horizontal period within said vertical blanking period.

84(new). The recording method according to claim 80, wherein said pre-set position of said record medium is located within a data area and/or a lead-in area of said record medium.

85(new). The recording method according to claim 84, wherein said pre-set position of said record medium is located within a header portion which is within said data area of said record medium.

86(new). The recording method according to claim 80, wherein said digital video data is partitioned into units and said copy management information is located in at least one of said units.

87(new). The recording method according to claim 80, wherein said record medium is an optical disc, a magneto-optical disc, a magnetic hard disk or an integrated circuit (IC) memory card.

88(new). The recording method according to claim 80, wherein said analog video signal is an analog video signal having a combination signal of plural pseudo synchronization pulses and plural white peak signals across plural horizontal periods in a vertical blanking period of said analog video signal.

89(new). The recording method according to claim 80, wherein said analog video signal is an analog color video signal having an associated color burst signal and wherein the phase of at least a portion of said color burst signal is changed from an original state.

90(new). The recording method according to claim 89, wherein said copy protection signal is a signal coded with plural bits, is located at a pre-set position of said analog video signal and is indicative of a limitation on recording.

91(new). A digital video signal recording method through which unauthorized copying of an analog video signal can be inhibited, comprising the steps of:

receiving said analog video signal, said analog video signal including a copy protection signal;

performing an analog-to-digital conversion on said analog video signal to generate digital video data;

compressing said digital video data to generate compressed video data;

detecting said copy protection signal included in said analog video signal;

generating copy management information according to a state of said copy protection signal detected in said step of detecting;

scrambling said compressed video data according to key information to generate scrambled video data; and

recording said scrambled video data with said key information, said key information being recorded at a pre-set position of a record medium.

92(new). The recording method according to claim 91, wherein said pre-set position of said record medium is located within a data area and/or a lead-in area of said record medium.

93(new). The recording method according to claim 92, wherein said pre-set position of said record medium is located within a header portion which is within said data area of said record medium.

94(new). The recording method according to claim 93, wherein said digital video data is partitioned into units and said key information is located in at least one of said units.

95(new). The recording method according to claim 91, wherein said key information corresponds to bit sequence data used to implement the scrambling.

96(new). A digital video signal recording method through which unauthorized copying of an analog video signal can be inhibited, comprising the steps of:

receiving said analog video signal, said analog video signal including a copy protection signal;

performing an analog-to-digital conversion on said analog video signal to generate digital video data;

compressing said digital video data to generate compressed video data;

detecting said copy protection signal included in said analog video signal;

generating copy management information according to a state of said copy protection signal detected in said step of detecting;

scrambling said compressed video data according to key information to generate scrambled video data;

appending said copy management information to said scrambled video data; and

recording said scrambled video data with said copy management information and said key information, said copy management information and said key information being recorded at a pre-set position of a record medium.

97(new). The recording method according to claim 96, wherein said copy protection signal is a signal coded with plural bits, is located at a pre-set position of said analog video signal and is indicative of a copy generation limitation.

98(new). The recording method according to claim 96, wherein said pre-set position of said record medium is located within a data area and/or a lead-in area of said record medium.

99(new). The recording method according to claim 96, wherein said pre-set position of said record medium is located within a header portion which is within said data area of said record medium.

100(new). The recording method according to claim 98, wherein said key information corresponds to bit sequence data used to implement the scrambling.

101(new). A digital video signal recorder capable of inhibiting unauthorized copying of an analog video signal, comprising:

an input terminal for receiving said analog video signal, said analog video signal including a copy protection signal;

analog-to-digital converting means for converting said analog video signal to digital video data;

compression means for compressing said digital video data to generate compressed video data;

detecting means for detecting said copy protection signal included in said analog video signal;

generating means for generating copy management information according to a state of said copy protection signal detected by said detecting means;

scrambling means for generating scrambled video data by scrambling said compressed video data according to said copy management information; and encoding and modulating means for recording said scrambled video data and said copy management information on a record medium, said copy management information being recorded at a pre-set position of said record medium.

102(new). The recorder according to claim 101, wherein said pre-set position of said record medium is located within a header portion of a data area and/or a lead-in area of said record medium.

103(new). A digital signal recorder capable of inhibiting unauthorized copying of an analog signal, comprising:

an input terminal for receiving said analog signal, said analog signal including a copy protection signal;

analog-to-digital converting means for converting said analog signal to digital data;

compression means for compressing said digital data to generate compressed data; detecting means for detecting said copy protection signal included in said analog signal, said copy protection signal being a signal coded with plural bits, being located at a pre-set position of said analog signal and being indicative of a copy generation limitation;

generating means for generating copy management information according to a state of said copy protection signal detected by said detecting means;

appending means for appending said copy management information to said compressed data; and

recording means for recording said compressed data with appended copy management information, said copy management information being recorded at a pre-set position of a record medium.

104(new). A digital signal recorder capable of inhibiting unauthorized copying of an analog signal, comprising:

an input terminal for receiving said analog signal, said analog signal including a copy protection signal;

analog-to-digital converting means for converting said analog signal to digital data;

compression means for compressing said digital data to generate compressed data;

detecting means for detecting said copy protection signal included in said analog signal, said copy protection signal being a signal coded with plural bits, being located at a pre-set position of said analog signal and being indicative of a copy generation limitation;

generating means for generating copy management information according to a state of said copy protection signal detected by said detecting means;

scrambling means for generating scrambled data by scrambling said compressed data according to said copy management information; and

encoding and modulating means for recording said scrambled data and said copy management information on a record medium.

105(new). A digital video signal recording method through which unauthorized copying of an analog video signal can be inhibited, comprising the steps of:

receiving said analog video signal, said analog video signal including a copy protection signal;

performing an analog-to-digital conversion on said analog video signal to generate digital video data;

compressing said digital video data to generate compressed video data;

detecting said copy protection signal included in said analog video signal;

generating copy management information according to a state of said copy protection signal detected in said step of detecting;

scrambling said compressed video data according to said copy management information to generate scrambled video data;

encoding and modulating said scrambled video data and said copy management information to generate encoded and modulated data; and

recording said encoded and modulated data on a record medium such that a portion of said encoded and modulated data corresponding to said copy management information is recorded at a pre-set position of said record medium.--

REMARKS

This Amendment is submitted prior to examination of the above-identified Continuation application. Claims 1-58 were pending in the parent application. In this Amendment, claims 1-58 have been canceled, and new claims 59-105 have been added. Claims 59-105 thus remain for consideration.

Early and favorable consideration by the Examiner is respectfully requested.

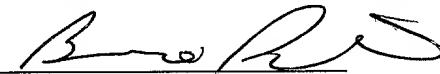
The Examiner is hereby authorized to charge any insufficient fees or credit any overpayment associated with the above-identified application to Deposit Account No. 50-0320.

The Examiner's consideration of this matter is gratefully acknowledged.

Respectfully submitted,

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